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THE SPELLING AND PRONUNCIATION OF CHEMICAL TERMS.

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THE necessity of establishing standards with reference to the nomenclatures of the different provinces of science has been felt for several years past, with more or less force, according to the branch concerned. In geography our own government has taken a most desirable initiative by issuing authorized lists of geographical names, the spellings of which have been the result of careful study and adherence to a few fixed general rules. Much has been done of late towards the establishment of a uniform nomenclature in geology, while the botanists assembled in an international congress this fall to grapple with their phase of the problem. In medicine the necessity of standards for uniformity in pronunciation is felt most keenly, but no decisive steps have been taken. It is by no means uncommon for students in a medical or pharmaceutical college to hear widely divergent pronunciations on the part of the corps of instructors.

The existence of these diversities, not only in medicine but also throughout the whole range of the sciences, is due chiefly to two causes. The first is the radical change which has taken place in the pronunciation of the classical tongues during the past quarter of a century, and which has naturally exerted a powerful influence on the pronunciation of naturalized Greek and Latin terms as well as of most derivatives from these languages. The second cause is to be found in the effects of Continental — i.e., French and German — usage on the constantly-growing contingent of American scientific and professional men who have studied in European universities. Involuntarily they often retain the Continental pronunciation of the vowels — especially *i*, in a less degree *a* and *e*, and still less *o* and *u* — in the use of words of identical or similar spelling. When this happens in the case of instructors, their usage is of course widely imitated.

Among our chemists, the need of adopting standards has been felt chiefly in the following directions.

1. The rapid extension of organic chemistry has led to the discovery of a notable array of new classes of compounds, whose existence was totally unforeseen and for whose naming, naturally, no provision was made, when about thirty years ago our otherwise admirable system of nomenclature was introduced by Hofmann and his contemporaries. This problem is, of course, one essentially international in its nature, and is now fortunately in a fair way to be solved. At the Chemical Congress, held in connection with the Paris exposition of 1889, an able committee was appointed to carefully formulate the questions needing decision, and make suggestions as to their treatment. As the complement of their work a congress of representative chemists was held during the past summer at Geneva, that favorite meeting-place of international conferences, and the great majority of the questions were settled in a series of sixty-two rules adopted with practical unanimity. Time limitations prevented the completion of the work, which is postponed to an adjourned session. It is impossible here to go into detail upon the important results of this congress. Suffice it to say that it has, with reasonable simplicity and deference to existent usage, provided a nomenclature which will meet the needs of chemists for probably 20 or 30 years. The chemist's language is not unlike that of the Turk, in which growth and change occur so rapidly that each new generation requires a totally revised and modernized edition of standard works in order to render them fairly intelligible to the reading public.

2. A settlement of the claims of priority in the case of the names of two elements, Columbium (or Niobium) and Glucinum (or Beryllium), seemed eminently desirable.

3. Equally important seemed to be the adhesion to several decisions on minor questions in terminology, such as that of the alcohols, the use of *-ic*, etc., already adopted by the London Chemical Society.

4. A subject of prime importance was the adoption of some fixed spelling and pronunciation for certain terminations, notably *-in* and *-ine*, *-id* and *-ide*, which would effectually banish the present lack of uniformity and adherence to the ordinary laws governing word-building and pronunciation in our language.

5. It seemed also proper to ascertain how far the chemist can go in adopting the simpler forms of spelling advocated by the Philological Societies of Great Britain and America, availing himself of the resultant economy and keeping in touch with the evident steady progress of phonetic reform in the English language.

For the purpose of obtaining a consensus of opinion and ultimate decision on the part of American chemists with reference to the four latter topics, the Chemical Section of the American Association for the Advancement of Science appointed in 1887 a special committee, which later, on account of the importance of the subject, was made one of the standing committees of the Association. Since that time the members of the committee have been in active correspondence with the entire body of American chemists and leading philologists, by means of annual circulars and individual communications, while at the successive meetings of the association the subject has been a regular topic for discussion. The final report, embodying the results of these few years of work, and approved unanimously by the Chemical Section of the Association, has recently appeared in print and been widely disseminated.

The importance of obtaining uniform usage in the application of these rules has been so fully recognized that the Bureau of Education at Washington is issuing an edition in the form of a small wall-chart, to be distributed to high-schools and colleges, which can thus keep the authority constantly in view in lecture-room and laboratory.

It might be added that the chemical nomenclature of one of the largest dictionaries in our language, now in course of preparation, is based upon this simple code, which has likewise been adopted by the influential *Journal of Analytical and Applied Chemistry*, and also used by Dr. T. Sterry Hunt in his latest work upon "Systematic Mineralogy," and in Professor R. A. Witthaus's recent "Manual of Chemistry." Since the appearance in print of this synopsis of rules, the writer and other members of the committee have received frequent inquiries with regard to the exact reasons underlying one or another of the individual changes recommended. These inquiries have come from those who have lacked the opportunity to keep *au courant* with the progress of the discussion and the final decisions.[1] It may, therefore, meet a

[1] This lack of general information on the subject and familiarity with the careful, cautious and conservative spirit in which all suggestions of change have been made, is well illustrated in a recent communication to this journal (p. 247). In this the writer, having encountered *sulfate* demands why *phenolphtalein* does not also undergo change, and then seeks to "picture our laboring scientists, with the new-system dictionary before them, ever fearful of beginning one word with an *F* after the new, and the next with a *Ph* after the old system." He is evidently unconscious of the one fact that the simplified spelling of *sulfur* and its derivatives, while bringing us into touch with the elementary principles of phonetic reform in our own language has much broader claims on us because it so manifestly aids all users of dictionaries and indexes in English, French, German and Italian. He likewise overlooks the fact that for the same reason the *Ph* of phosphorus remains intact because Italian is thus far the only language in which the digraph has been superseded by the simple *F*, and because the change in the initial letter of a word would lead to difficulties in the matter of reference, undesirable at present.